GDT 87

A. Scope

For a complete list of GDTs, see the Table of Contents.

Use this test method to determine the flow rate through filter fabric material using the falling head method.

B. Apparatus

The apparatus consists of the following:

1. Permeameter: See Figure 87-1.
2. Stop Watch (WS-15)
3. Water Supply
4. Fabric Sample: Use a sample of approximately 3 yd^2 (2.5 m^2).

C. Sample Size and Preparation

1. Cut 3 samples, 4 in (100 mm) in diameter, from the central area of each third of the fabric sample.
2. Soak the fabric samples in water for at least 24 hours.
3. Place one sample in the permeameter.

D. Procedures

1. Fill permeameter with water and let it stand for 1 to 2 minutes to settle down.
2. Allow water to drain through bottom of permeameter. Record the time to drain between the 2.5 oz (75 ml) and 0.8 oz (25 ml) elevation marks.
3. Repeat the test at least three times per sample and average the results.
4. Change the sample in the permeameter and repeat steps 1-3 until all 3 samples are tested.

E. Calculations

Calculate the flow rate as follows:

$$Q = \frac{983}{T}$$

where:

Q = gallons per minute per square foot (liters per minute per square meter) fabric area

T = time to drain water (seconds)

F. Report

1. Accept the material if two of the three samples have sufficient flow rates and the average of the three samples is above the minimum.
2. Report the flow rate on Form 658.